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MSAD #1 – RSU #79
Presque Isle High School
Aroostook County
Presque Isle, Maine
A-58-71-J-R/A

Departmental
Findings of Fact and Order
Air Emission License
Renewal/Amendment

FINDINGS OF FACT

After review of the air emissions license renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes Annotated (M.R.S.A.), §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. REGISTRATION

A. Introduction

MSAD #1 – RSU #79, Presque Isle High School (PIHS) has applied to renew their Air Emission License permitting the operation of emission sources associated with their educational facility.

PIHS has requested an amendment to their license in order to rename previously licensed Boiler #1 to Boiler #3, and replace previously licensed Boiler #2 with two new smaller units, designated Boilers #1 and #2, capable of firing No. 2 fuel oil and propane. Also included in the amendment is the conversion of Boiler #3 from firing No. 5 fuel oil, to a dual fuel firing unit, capable of firing No. 2 fuel oil and propane.

The equipment addressed in this license is located at 16 Griffin Street in Presque Isle, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (gal/hr)	Fuel Type, % sulfur	Manf. Date	Install. Date	Stack #
Boiler #1 (N)	3.3	23.5	#2 Fuel Oil, 0.5% S	2013	2013	1
	3.4	37.9	Propane, negligible			
Boiler #2 (N)	3.3	23.5	#2 Fuel Oil, 0.5% S	2013	2013	1
	3.4	37.9	Propane, negligible			
Boiler #2 (R)	9.3	62.8	#5 Fuel Oil, 1.4% S	1968	1968	1
Boiler #3*	7.0	50.0	#2 Fuel Oil, 0.5% S	1968	1968	1
	7.2	79.3	Propane, negligible			

(N) Denotes new units
(R) Removed from license
* Boiler #3 was previously licensed as Boiler #1 in amendment A-58-71-H-R/A (dated July 27, 2009). The unit's burners were removed and replaced with those capable of firing #2 fuel oil and propane.

Generators

Equipment	Power Output (KW)	Firing Rate (gal/hr)	Fuel Type, % sulfur	Manuf. Date	Install. Date	Stack #
Generator #1	50	4.51	Diesel, 0.0015% S	June 2007	2007	2

C. Application Classification

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

Pollutant	Current License (TPY)	Future License (TPY)	Net Change (TPY)	Sig. Level
PM	1.51	4.76	+ 3.25	100
PM_{10}	1.51	4.76	+ 3.25	100
SO_2	11.04	29.97	+ 18.93	100
NO_X	3.90	8.87	+ 4.97	100
CO	0.39	5.12	+ 4.73	100
VOC	0.14	0.70	+ 0.56	50
CO_2e	<100,000	<100,000	<100,000	100,000

Therefore, the license is considered to be a renewal and a minor modification and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (CMR) 115 (as amended). With the operating hours restriction on the emergency generator, the facility is licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of HAP.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boilers #1, #2 and #3

PIHS operates Boilers #1, #2 and #3 primarily for facility heat and hot water needs. Boilers #1, #2 and #3 are dual fuel firing units, capable of firing both No. 2 fuel oil and propane. When firing No. 2 fuel oil, the boilers are rated at 3.3 MMBtu/hr, 3.3 MMBtu/hr and 7.0 MMBtu/hr, respectively, and when firing propane they are rated at 3.4 MMBtu/hr, 3.4 MMBtu/hr and 7.2 MMBtu/hr, respectively. Boilers #1 and #2 are new units that were manufactured and installed in 2013. Boiler #3 was manufactured and installed in 1968 with the capability to fire No. 5 fuel oil; however, in 2013 the unit's No. 5 fuel oil burners were replaced with the new burners capable of firing No. 2 fuel oil and propane. All three boilers exhaust through a common stack, designated Stack #1.

Due to the size of the boilers, they are not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

1. BACT Findings

The BACT emission limits for the boilers were based on the following:

No. 2 Fuel Oil

PM/PM_{10}	–	0.08 lb/MMBtu based on 06-096 CMR 115, BACT
SO_2	–	Based on firing ASTM D396 compliant No. 2 fuel oil (0.5% sulfur); 0.5 lb/MMBtu
NO_X	–	20 lb/1000 gal based on AP-42, Table 1.3-1, dated 5/10
CO	–	5 lb/1000 gal based on AP-42, Table 1.3-1, dated 5/10
VOC	–	0.34 lb/1000 gal based on AP-42, Table 1.3-3, dated 5/10
Opacity	–	06-096 CMR 101

Propane

PM/PM_{10}	–	0.05 lb/MMBtu based on 06-096 CMR 115, BACT
SO_2	–	0.018 lb/1000 gal based on AP-42, Table 1.5-1, dated 7/08 and an average sulfur content of 0.18 gf/100 ft^3
NO_X	–	13 lb/1000 gal based on AP-42, Table 1.5-1, dated 7/08
CO	–	7.5 lb/1000 gal based on AP-42, Table 1.5-1, dated 7/08
VOC	–	1.0 lb/1000 gal based on AP-42, Table 1.5-1, dated 7/08
Opacity	–	06-096 CMR 101

The BACT emission limits for the boilers are the following:

Unit	Fuel Type	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_X (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	No. 2 fuel oil	0.26	0.26	1.66	0.47	0.12	0.01
	Propane	0.17	0.17	0.01	0.49	0.28	0.04
Boiler #2	No. 2 fuel oil	0.26	0.26	1.66	0.47	0.12	0.01
	Propane	0.17	0.17	0.01	0.49	0.28	0.04
Boiler #3	No. 2 fuel oil	0.56	0.56	3.53	1.00	0.25	0.02
	Propane	0.36	0.36	0.01	1.03	0.60	0.08

If any boiler is firing No. 2 fuel oil, visible emissions from Stack #1 (serving Boilers #1, #2 and #3) shall not exceed 20% opacity on a 6-minute block average, except for no more than one (1) six (6) minute block average in a 3-hour period. If propane is the only fuel being fired, visible emissions from Stack #1 (serving Boilers #1, #2 and #3) shall not exceed 10% opacity on a 6-

minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period.

Prior to July 1, 2016 or by the date otherwise stated in 38 MRSA §603-A(2)(A)(3), any No. 2 fuel oil fired in Boilers #1, #2, and #3 shall be ASTM D396 compliant No. 2 fuel oil (maximum sulfur content of 0.5% by weight). Per 38 MRSA §603-A(2)(A)(3), beginning July 1, 2016 or on the date specified in the statute, the facility shall fire No. 2 fuel oil with a maximum sulfur content limit of 0.005% by weight (50 ppm), and beginning January 1, 2018 or on the date specified in the statute, the facility shall fire No. 2 fuel oil with a maximum sulfur content limit of 0.0015% by weight (15 ppm). The specific dates contained in this paragraph reflect the current dates in the statute as of the effective date of this license; however, if the statute is revised, the facility shall comply with the revised dates upon promulgation of the statute revision.

2. Periodic Monitoring

Periodic monitoring for the boilers shall include recordkeeping to document fuel use both on a monthly and calendar year basis. Documentation shall include the type of fuel used and sulfur content of the fuel, if applicable.

3. 40 CFR Part 63 Subpart JJJJJJ

Boilers #1, #2 and #3 are be subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources* (40 CFR Part 63 Subpart JJJJJJ). Boilers #1 and #2 are be considered new boilers rated less than 10 MMBtu/hr and Boiler #3 is considered an existing oil boiler.

Gas-fired boilers (or those firing propane) are exempt from 40 CFR Part 63, Subpart JJJJJJ. However, boilers which fire No. 2 fuel oil are not. A "gas-fired boiler" is defined as any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [40 CFR Part 63.11237] If Boilers #1, #2 and #3 are operated such that they meet the "gas-fired boiler" definition, the units are exempt from 40 CFR Part 63, Subpart JJJJJJ. However if they do not meet the definition, the boiler are subject to the federal regulation and all applicable requirements.

Any boilers designed to burn fuels besides natural gas (or propane) prior to June 4, 2010 will be considered an existing boiler under this rule. A boiler which currently fires natural gas (or propane), but converts back to firing

another fuel (such as No. 2 fuel oil) in the future, would become subject as an existing boiler at the time it is converted back to fuel oil.

If the boilers cannot meet the definition of a "gas-fired boiler" as defined above or if they do but in the future switch back to firing No. 2 fuel oil, a summary of the currently applicable federal 40 CFR Part 63 Subpart JJJJJJ requirements is listed below if the. At this time, the Department has not taken delegation of this area source MACT (Maximum Achievable Control Technology) rule promulgated by EPA, however PIHS is still subject to the requirements. Notification forms and additional rule information can be found on the following website:
http://www.epa.gov/ttn/atw/boiler/boilerpg.html.

a. Compliance Dates, Notifications, and Work Practice Requirements

i. Initial Notification of Compliance

An Initial Notification submittal to EPA was due January 20, 2014 for Boiler #3 and for Boilers #1 and #2 within 120 days after they became subject to the standard. [40 CFR Part 63.11225(a)(2)]

ii. Boiler Tune-Up Program

(a) A boiler tune-up program was to be implemented to include the initial tune-up of Boiler #3 by March 21, 2014. [40 CFR Part 63.11196(a)(1)] Boilers #1 and #2 are not required to complete an initial performance tune-up because they are considered new sources that have applicable work practice standards and management practices. [40 CFR Part 63.11210(f))]

(b) The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

1. As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim system, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(1)]
2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled

shutdown is permitted; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim system, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(3)]

4. Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]
5. Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. [40 CFR Part 63.11223(b)(5)]
6. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 CFR Part 63.11223(b)(7)]

(c) After conducting the initial boiler tune-up, a Notification of Compliance Status shall be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

(d) The facility shall implement a boiler tune-up program after the initial tune-up and initial compliance report (called a Notification of Compliance Status) has been submitted.

1. Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

Boiler Category	**Tune-Up Frequency**
New or Existing Oil, Biomass and Coal fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below	Every 2 years
New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements	
Seasonal (see definition §63.11237)	Every 5 years
Limited use (see definition §63.11237)	Every 5 years
With a heat input capacity of <5MMBtu/hr	Every 5 years
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up	Every 5 years

[40 CFR Part 63.11223(a) and Table 2]

2. The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)] The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]

b. Recordkeeping

Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.

Note: EPA will require submission of Notification of Compliance Status reports for tune-ups and energy assessments through their electronic reporting system. [63.1125(a)(4)(vi)]

C. Generator #1

PIHS operates one emergency generator, designated Generator #1. Generator #1 is rated at 0.6 MMBtu/hour (50 kW power output) and fires diesel fuel. The generator was manufactured and installed in 2007 and exhausts through its own stack, designated Stack #2.

1. BPT Findings

The BPT emission limits for the generator are based on the following:

PM/PM_{10}	- 0.4 g/kW-hr from 40 CFR §60.4205(b) and 06-096 CMR 115, BACT; 0.07 lb/MMBtu

SO_2	- Combustion of diesel fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur)
NO_X+NMHC	- 7.5 g/kW-hr from 40 CFR §60.4205(b) and 06-096 CMR 115, BACT; 1.34 lb/MMBtu
CO	- 5.0 g/kW-hr from 40 CFR §60.4205(b) and 06-096 CMR 115, BACT; 0.89 lb/MMBtu
VOC	- 0.36 lb/MMBtu from AP-42, Table 3.3-1, dated 10/96
Opacity	- 06-096 CMR 101

The BPT emission limits for the generator are the following:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.04	0.04	0.01	0.60	0.55	0.22

Visible emissions from Generator #1 shall not exceed 20% opacity on a 6-minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period.

2. 40 CFR Part 60, Subpart IIII

The federal regulation 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)* is applicable to Generator #1 listed above since the unit was ordered after July 11, 2005 and manufactured after April 1, 2006. By meeting the requirements of Subpart IIII, the unit also meets the requirements found in the *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 CFR Part 63, Subpart ZZZZ.

a. Emergency Definition:
Emergency stationary ICE means any stationary reciprocating internal combustion engine that meets all of the following criteria:

(1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) Paragraph (1) above notwithstanding, the emergency stationary ICE may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year:

(i) Maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Paragraphs (1) and (2) above notwithstanding, emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours are counted as part of the 100 hours per calendar year for maintenance checks and readiness testing, emergency demand response, and periods of voltage deviation or low frequency, as provided in paragraph (2) above.

The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity, except if the following conditions are met:

(i) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(ii) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(iii) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(iv) The power is provided only to the facility itself or to support the local transmission and distribution system.

(v) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR §60.4211(f) and §60.4219]

b. 40 CFR Part 60, Subpart IIII Requirements:

(1) Manufacturer Certification Requirement
The generator shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 CFR §60.4202. [40 CFR §60.4205(b)]

(2) Non-Resettable Hour Meter Requirement
A non-resettable hour meter shall be installed and operated on the generator. [40 CFR §60.4209(a)]

(3) Operation and Maintenance Requirements
The generator shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures developed by facility that are approved by the engine manufacturer. PIHS may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

(4) Annual Time Limit for Maintenance and Testing
The generator shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §60.4211(f)(3)(i) are met). [40 CFR §60.4211(f)]

(5) Initial Notification Requirement
No initial notification is required for the emergency engine. [40 CFR §60.4214(b)]

(6) Recordkeeping
PIHS shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the generator is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), PIHS shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes. [40 CFR §60.4214(b)]

D. General Process Emissions

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period.

E. Annual Emissions

1. Total Annual Emissions

PIHS shall be restricted to the following annual emissions, based on a calendar year total. Because emissions are dependent on the fuel being fired, and PIHS wishes to have licensed capability to fire No. 2 fuel oil and propane in the boilers, the facility shall be restricted to the maximum annual emissions from the fuel which gives the highest tons per year quantity for each pollutant. The tons per year of pollutants from both No. 2 fuel oil and propane combustion were calculated based on maximum operation time in a year of 8,760 hours/year. Due to these conditions, the highest emissions for PM, PM_{10}, and SO_2 occur when firing number No. 2 fuel oil and for NO_X, CO and VOC when firing propane in the boilers. The tons per year limits for Generator #1 were calculated based on an operation time of 100 hours per year.

Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)

	PM	PM_{10}	SO_2	NO_x	CO	VOC
Boiler #1	1.15	1.15	7.26	2.16	1.24	0.17
Boiler #2	1.15	1.15	7.26	2.16	1.24	0.17
Boiler #3	2.45	2.45	15.44	4.52	2.61	0.35
Generator #1	0.01	0.01	0.01	0.03	0.03	0.01
Total TPY	**4.76**	**4.76**	**29.97**	**8.87**	**5.12**	**0.70**

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans,* 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO_2e).

Based on the facility's fuel use limit(s), the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, PIHS is below the major source threshold of 100,000 tons of CO_2e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source shall be determined by the Department on a case-by case basis. In accordance with 06-096 CMR 115, an ambient air quality impact analysis is not required for a minor source if the total emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM_{10}	25
SO_2	50
NO_x	50
CO	250

The total facility licensed emissions are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-58-71-J-R/A subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353-A. [06-096 CMR 115]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]

(11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:

1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
2. pursuant to any other requirement of this license to perform stack testing.

B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
C. submit a written report to the Department within thirty (30) days from date of test completion.

[06-096 CMR 115]

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 115]

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such

monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) Boilers #1, #2 and #3

A. Fuel

1. The boilers are licensed to fire No. 2 fuel oil and propane. [06-096 CMR 115, BACT]
2. Prior to July 1, 2016 or the date specified in 38 MRSA §603-A(2)(A)(3), any No. 2 fuel oil fired in the boilers shall be ASTM D396 compliant (max. sulfur content of 0.5% by weight). [06-096 CMR 115, BPT]
3. Beginning July 1, 2016 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire No. 2 fuel oil with a maximum sulfur content limit of 0.005% by weight (50 ppm). [38 MRSA §603-A(2)(A)(3)]
4. Beginning January 1, 2018 or on the date specified in 38 MRSA §603-A(2)(A)(3), the facility shall fire No. 2 fuel oil with a maximum sulfur content limit of 0.0015% by weight (15 ppm). [38 MRSA §603-A(2)(A)(3)]
5. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered (if applicable). Records of annual fuel use shall be kept on a monthly and calendar year basis. [06-096 CMR 115, BPT]

B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Oil Fired Boiler	PM	0.08	06-096 CMR 115, BACT
Propane Fired Boiler	PM	0.05	06-096 CMR 115, BACT

C. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	Fuel Type	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_X (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	No. 2 fuel oil	0.26	0.26	1.66	0.47	0.12	0.01
	Propane	0.17	0.17	0.01	0.49	0.28	0.04
Boiler #2	No. 2 fuel oil	0.26	0.26	1.66	0.47	0.12	0.01
	Propane	0.17	0.17	0.01	0.49	0.28	0.04
Boiler #3	No. 2 fuel oil	0.56	0.56	3.53	1.00	0.25	0.02
	Propane	0.36	0.36	0.01	1.03	0.60	0.08

D. Visible Emissions

1. If any boiler (Boilers #1, #2 or #3) is firing No. 2 fuel oil, visible emissions from Stack #1 (serving Boilers #1, #2 and #3) shall not exceed 20% opacity on a 6-minute block average, except for no more than one (1) six (6) minute block average in a 3-hour period. [06-096 CMR 101]
2. If propane is the only fuel being fired, visible emissions from Stack #1 (serving Boilers #1, #2 and #3) shall not exceed 10% opacity on a 6-minute block average basis, except for no more than one (1) six (6) minute block average in a 3-hour period. [06-096 CMR 101]

E. 40 CFR Part 63, Subpart JJJJJJ [incorporated under 06-096 CMR 115, BPT]

If the boilers cannot meet the definition of a "gas-fired boiler" as defined in the Findings of Fact (II)(B)(3) or if they do, but in the future switch back to firing No. 2 fuel oil, the boilers shall comply with all applicable requirements in 40 CFR Part 63, Subpart JJJJJJ, including the following:

1. An Initial Notification submittal to EPA was due January 20, 2014 for Boiler #3 and for Boilers #1 and #2 within 120 days after they became subject to the standard. [40 CFR Part 63.11225(a)(2)]

2. A boiler tune-up program was to be implemented to include the initial tune-up of Boiler #3 by March 21, 2014. [40 CFR Part 63.11196(a)(1)] Boilers #1 and #2 are not required to complete an initial performance tune-up because they are considered new sources that have applicable work practice standards and management practices. [40 CFR Part 63.11210(f))]

3. The boiler tune-up program, conducted to demonstrate continuous compliance, shall be performed as specified below:

   (a) As applicable, inspect the burner, and clean or replace any component of the burner as necessary. Delay of the burner inspection until the next scheduled shutdown is permitted; not to exceed 36 months from the previous inspection for boilers greater than 5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim system, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(1)]
   (b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern, consistent with the manufacturer's specifications. [40 CFR Part 63.11223(b)(2)]
   (c) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure it is correctly calibrated and functioning properly. Delay of the inspection until the next scheduled shutdown is permitted; not to exceed 36 months from the previous inspection for boilers greater than

5 MMBtu/hr or 72 months from the previous inspection for oil fired boilers less than 5 MMBtu/hr, boilers with oxygen trim system, seasonal boilers, and limited use boilers. [40 CFR Part 63.11223(b)(3)]

(d) Optimize total emissions of CO, consistent with manufacturer's specifications. [40 CFR Part 63.11223(b)(4)]

(e) Measure the concentration in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. [40 CFR Part 63.11223(b)(5)]

(f) If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up. [40 CFR Part 63.11223(b)(7)]

4. After conducting the initial boiler tune-up, a Notification of Compliance Status shall be submitted to EPA no later than July 19, 2014. [40 CFR Part 63.11225(a)(4) and 40 CFR Part 63.11214(b)]

5. The facility shall implement a boiler tune-up program after the initial tune-up and initial compliance report (called a Notification of Compliance Status) has been submitted.

   (a) Each tune-up shall be conducted at a frequency specified by the rule and based on the size, age, and operations of the boiler. See chart below:

Boiler Category	**Tune-Up Frequency**
New or Existing Oil, Biomass and Coal fired boilers that are not designated as "Boilers with less frequent tune up requirements" listed below	Every 2 years
New and Existing Oil, Biomass, and Coal fired Boilers with less frequent tune up requirements	
Seasonal (see definition §63.11237)	Every 5 years
Limited use (see definition §63.11237)	Every 5 years
With a heat input capacity of <5MMBtu/hr	Every 5 years
Boiler with oxygen trim system which maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune up	Every 5 years

[40 CFR Part 63.11223(a) and Table 2]

(b) The tune-up compliance report shall be maintained onsite and, if requested, submitted to EPA. The report shall contain the concentration of CO in the effluent stream (ppmv) and oxygen in volume percent, measured at high fire or typical operating load, before and after the boiler tune-up, a description of any corrective actions taken as part of the tune-up of the boiler, and the types and amounts of fuels used over the 12 months prior to the tune-up of the boiler. [40 CFR Part 63.11223(b)(6)] The compliance report shall also include the company name and address; a compliance statement signed by a responsible official certifying truth, accuracy, and completeness; and a description of any deviations and corrective actions. [40 CFR Part 63.11225(b)]

6. Records shall be maintained consistent with the requirements of 40 CFR Part 63 Subpart JJJJJJ including the following [40 CFR Part 63.11225(c)]: copies of notifications and reports with supporting compliance documentation; identification of each boiler, the date of tune-up, procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; documentation of fuel type(s) used monthly by each boiler; the occurrence and duration of each malfunction of the boiler; and actions taken during periods of malfunction to minimize emissions and actions taken to restore the malfunctioning boiler to its usual manner of operation. Records shall be in a form suitable and readily available for expeditious review.

(17) **Generator #1**

A. Generator #1 shall be limited to 100 hours of operation per calendar year, excluding operating hours during emergency situations. [06-096 CMR 115]

B. The fuel oil sulfur content for Generator #1 shall be limited to 0.0015% sulfur. Compliance shall be demonstrated by fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 115, BPT]

C. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.04	0.04	0.01	0.60	0.55	0.22

D. Visible emissions from Generator #1 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

E. Generator #1 shall meet the applicable requirements of 40 CFR Part 60, Subpart IIII, including the following:

1. Manufacturer Certification
   The generator shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in §60.4202. [40 CFR §60.4205(b)]

2. Non-Resettable Hour Meter
   A non-resettable hour meter shall be installed and operated on the generator. [40 CFR §60.4209(a)]

3. Annual Time Limit for Maintenance and Testing
   a. The generator shall be limited to 100 hours/year for maintenance checks and readiness testing, emergency demand response, and periods of voltage or frequency deviation from standards. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, non-emergency demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity unless the conditions in §60.4211(f)(3)(i) are met). These limits are based on a calendar year. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §60.4211(f) and 06-096 CMR 115]

   b. PIHS shall keep records that include maintenance conducted on the generator and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the generator is operated during a period of demand response or deviation from standard voltage or frequency, or to supply power during a non-emergency situation as part of a financial arrangement with another entity as specified in §60.4211(f)(3)(i), PIHS shall keep records of the notification of the emergency situation, and the date, start time, and end time of generator operation for these purposes.

4. Operation and Maintenance
   The generator shall be operated and maintained according to the manufacturer's emission-related written instructions or procedures

developed by PIHS that are approved by the engine manufacturer. PIHS may only change those emission-related settings that are permitted by the manufacturer. [40 CFR §60.4211(a)]

(18) **General Process Sources**

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]

(19) PIHS shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 16 DAY OF April , 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Mara Allen Robert Cone for
PATRICIA W. AHO, COMMISSIONER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a complete renewal application, as determined by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 MRSA §10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the renewal of the license.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 02/18/2014
Date of application acceptance: 02/24/2014

Date filed with the Board of Environmental Protection:

Filed
APR 17 2014
State of Maine
Board of Environmental Protection

This Order prepared by Allison M. Hazard, Bureau of Air Quality.